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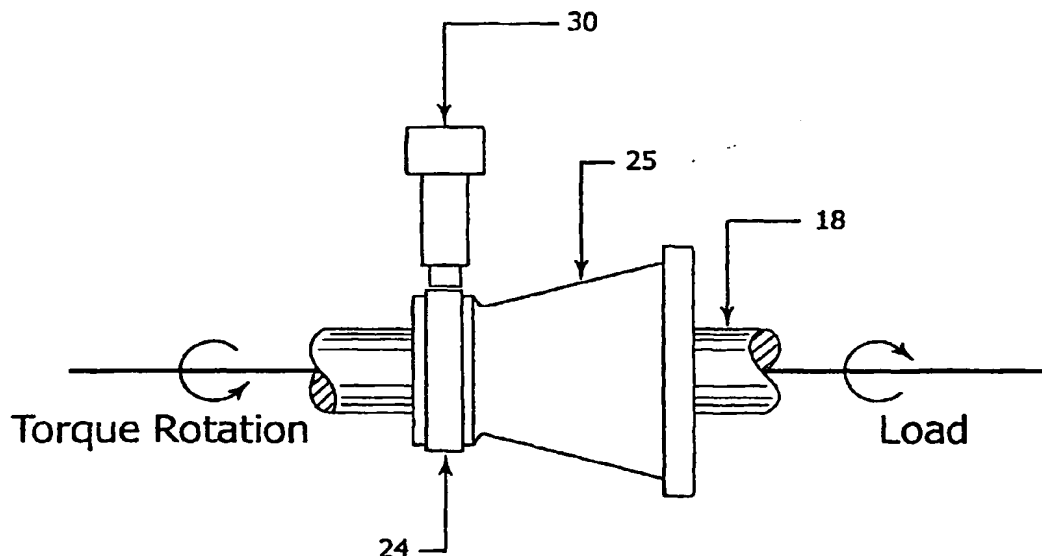
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60/383,945 29 May 2002 (29.05.2002) **US**
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(54) Title: IN-BEARING TORQUE SENSOR ASSEMBLY



(57) **Abstract:** The present disclosure provides a device for sensing a torque applied through a shaft (18). The device includes a shaft (18) and a bearing (40) attached to the shaft (18). The bearing (40) includes an inner race (44), an outer race (42) and a plurality of rolling elements (46). A magnetoelastic ring (24) is press-fit onto the inner race (44). An eddy current or a magnetic field sensor (30) is placed in close proximity to the magnetoelastic ring (24). In the case of an eddy current sensor (30), the magnetoelastic ring (24) is not magnetized. In the case of a magnetic field sensor (30), the magnetoelastic ring (24) is magnetically circularly polarized. In either case, the chosen sensor (30) senses the induced changes of the magnetoelastic ring (24) characteristics and its associated electronics provides a measure of the applied torque.



WO 03/102524 A1